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ABSTRACT

This book presents 11 papers on the use of neuroimaging technology in brain-related disorders. The text contains full-color neuroimaging scans and provides both theoretical and methodological explanations of the various neuroimaging techniques and their application to developmental disorders in children. The papers are grouped into three sections, on basic biological and methodological concepts, the application of neuroimaging methods to childhood disorders, and future directions and clinical applications. The papers are: (1) "Foundations of Neuroanatomy and Neuropsychology" (G. Reid Lyon); (2) "A Survey of Functional and Anatomical Neuroimaging Techniques" (Jack Krasuski and others); (3) "Neuroimaging in Developmental Dyslexia: A Review and Conceptualization" (Judith M. Rumsey); (4) "The Neurobiology of Developmental Dyslexia as Viewed through the Lens of Functional Magnetic Resonance Imaging Technology" (Sally E. Shaywitz and others); (5) "Neuroimaging in Attention-Deficit/Hyperactivity Disorder" (Monique Ernst); (6) "Neuroimaging Studies of Autism" (Judith M. Rumsey); (7) "The Contribution of Neuroimaging to Behavioral Neurogenetics Research: Fragile X Syndrome, Turner Syndrome, and Neurofibromatosis-1" (Allan L. Reiss and Martha Bridge Denckla); (8) "Neuroimaging Studies of Children with Epilepsy" (William D. Gaillard); (9) "Brain Structure and Function in Pediatric Acquired Immunodeficiency Syndrome" (Pim Brouwers and others); (10) "Predicting Outcomes for Infants and Young Children by Using Neuroimaging Technology" (Rachelle Tyler and Judy Howard); and (11) "Neuroimaging and Developmental Disorders: Comments and Future Directions" (G. Reid Lyon and Judith M. Rumsey). References accompany each paper. (DB)